

The German dual vocational training system – the origin of the current architecture –

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Abstract

“Today’s dual vocational training system in Germany is not the result of conscious planning and development, but rather arose within a complex historical process to form a connected whole” (Greinert 1995, p. 19). The current functionality can thus only be understood against the backdrop of its historical development. This history is the focus of the article. It will trace the establishment of central steering components in light of the respective societal context. The focus of this articles is: (1) The role of guilds (in german “Zunft”) in the Middle Ages and the development of a cultural value system; (2) The role of the state in the bourgeois-capitalist society of the 18th and 19th centuries and the development of corporatist steering.

1 Introduction

Research interest

The German dual vocational training system is currently enjoying a high level of international esteem, as it appears possible to achieve social (e.g. low rate of youth unemployment) and economic goals (e.g. a strong economy) equally by means of this system (OECD 2010). The implementation of a dual vocational training system is therefore at the moment being examined or tested by different European governments. A key hope here is to more quickly overcome the economic crisis with the help of a vocational system according to the German example. Thus, for example, six European countries (Spain, Greece, Portugal, Italy, Slovakia and Latvia) signed a “Memorandum on Cooperation in Vocational Education and Training in Europe” in December 2012 in Berlin with the participation of the European Commission, containing an agreement to establish dual vocational training systems in their countries. ¹

The idea to export the German dual vocational training system to other countries is nothing new. Such attempts have already been made in different continents (Africa, Asia, South America) (Biermann 1994). However, the broad interest in Europe and the urgency of the situation are indeed new: to what extent does the German vocational training system provide a pan-European solution option to overcome the crisis? Is the German dual vocational training system even exportable?

The intention of this article is to illustrate the development of the German dual vocational training system, in order to elucidate its underlying structure, its architecture, and to clarify that it is not the existence of two places of learning, school and enterprise, or the successful combination of theory and practice, but rather the integration of two steering mechanisms: the private-legal sphere of enterprise on the one hand, and the public-legal sphere of the state on the other are connected in the German dual vocational training system (Streeck et al. 1987). The central gain of such an integrated market-state mechanism is that capitalism becomes more humane and democracy becomes more productive; in other words, it is nothing less than the combination and balance of “equality” and efficiency” (Okun 1975).

In order for such a mechanism to become established, it is necessary that state and enterprise expect to gain

¹ http://www.bmbf.de/pubRD/memorandumvocational_education_and_training_2012.pdf

from cooperation. What is the benefit for the state if it transfers responsibility, and what is the benefit for enterprise if it takes on responsibility? And even if this aspect were settled, such a market-state mechanism cannot function if it is not embedded in a socio-cultural context that values, recognises and supports this.

An understanding of the development of the German dual vocational training system may help, according to our approach, to avoid the false conclusion that a historically developed system can be exported in its entirety just like a commodity. One may take individual ideas from a vocational training system (whichever this may be) as an opportunity to develop structures that are adjusted to the political, socio-cultural and economic conditions of the “importing” country. In an actual ex post evaluation of “export projects” on the establishment of a dual vocational training system in Burkina Faso and in the Philippines, Stockmann and Silvestrini come e.g. to the conclusion that the implementation did not take place sustainably and is “not satisfactory”. (Stockmann und Silvestrini 2013).

In a recent publication, Euler broke down the dual vocational training system and identified eleven components “that can be viewed individually: How is the dual system financed? How can theory and practical training be combined in a meaningful way? How are examinations conducted?” (Euler 2013, p. 4). With this, Euler makes an important contribution by establishing a tool kit with which to consider the importing of such a system. Our intention is different: what determines the system of dual vocational training in Germany? We will describe the development of the non-exportable underlying structure.

Before we trace the historical development, we will introduce a range of basic models to locate the debate. One limitation upfront: the history in this article begins in the Middle Ages and ends with the conclusion of the 19th century. The establishment of the vocational training system in the 20th century will be part of a separate article.

Basic models of vocational training systems

The German vocational training system is characterised by a high vocational specificity on the one hand within the educational system, and by the strong involvement of companies on the other. The following table provides a comparative overview of the vocational training systems of France, Japan, Sweden, USA, UK and Germany along two dimensions, (1) “Vocational specificity of education system” and (2) “Firm involvement in skill formation processes”.

Table 1: Skill regimes in industrialized democracies (Busemeyer, 2009, p. 387)

		Firm involvement in skill formation processes	
		Superficial	Deep
Vocational specificity of education system	Low	General skill system (USA, UK)	Enterprise-based skill system (Japan)
	High	School-based occupational skill system (France, Sweden)	Workplace-based occupational skill system (Germany)

Within the “liberal” sphere of the Anglo-American world (in particular USA and UK), the state does not charge its companies with the training of their employees, and also the state itself does not take on responsibility, but rather fulfils a societal minimum requirement as part of a “general skill system”. The result: there is neither an enterprise-supported nor a state-organised vocational training system, and consequently, there is no vocational education system in the actual sense of the term. Each individual employee is responsible for their “employability”, and this is the joint position of both state and enterprise. In analogy to the leadership style typology according to Kurt Lewin (1939), the state leadership style of this basic model can be labelled “laissez-faire”.

Japan has a similar structure to the liberal basic model: the state education system is only geared towards company requirements to a very small degree. In contrast to the Anglo-American model, however, the companies take on responsibility for the enterprise-based training system. In analogy to the leadership style typology according to Kurt Lewin, the state leadership style of this basic model can also be considered “laissez-faire”. However, the companies take on their self-responsibility, so that within the framework of their liberties, they do not just do nothing, but structure this area of freedom.

In contrast to the liberal model, the state takes over full responsibility in a school-based occupational skill system (particularly France and Sweden). It plans, organises, carries out and monitors vocational training. The companies are largely uninvolved in vocational training. In analogy to the leadership style typology according to Kurt Lewin, the state leadership style of this basic model can be considered “autocratic”.

In Germany, the state has delegated the responsibility for carrying out workplace-based vocational training to companies; however, the state has defined the framework and conditions under which the training must take place within the companies. The state is responsible for the school-based part of vocational training. In analogy to the leadership style typology according to Kurt Lewin, the state leadership style of the basic “workplace-based occupational skill system” model can be considered “participative” or “democratic”.

In the following chapters, we will trace the steps in which the dual system of vocational training developed in Germany. The development path of the underlying structure, which ensures functionality, will be presented along four stages in two articles. The content of these articles is: (1) The role of guilds (in German “Zunft”) in the Middle Ages and the development of a cultural value system; (2) The role of the state in the bourgeois-capitalist society of the 18th and 19th centuries and the development of corporatist steering. The content of the second article, which will be published in the next issue, is: (3) The role of industrial enterprises in the 20th century and the standardization of vocational training; (4) The role of trade unions in post-war Germany and the establishment of the dual vocational training system.

2 Development steps of the workplace-based occupational skill system in Germany

“Today’s dual vocational training system in Germany is not the result of conscious planning and development, but rather arose within a complex historical process to form a connected whole” (Greinert 1995, p. 19). The current functionality can thus only be understood against the backdrop of its historical development. This history is the focus of the article. It will trace the establishment of central steering components in light of the respective societal context.

2.1 The role of guilds in the Middle Ages and the development of a cultural value system

The state-based society of the Middle Ages was a strictly hierarchical system of self-contained groups. In medieval cities, the “honourable” craftsmen were organized in groups, in so-called “guilds” (German: “Zunft” or “Innung”). In the hierarchy, the urban guilds were subordinate to the nobility (1st estate) and the clergy (2nd estate), on the same level as the yeomen (3rd estate) and superordinate to the serfs (e.g. servants).

Social functions of guilds

Guilds had far-reaching rights and obligations in the cities: they carried out police regulatory measures, were co-responsible for the defence of cities, determined the prices for goods and services, decided who was permitted to carry out a trade in the city, and organized and controlled access to their guild and thus to “honourable” vocations via vocational training. Members of “dishonourable” professions, such as executioners, actors or prostitutes, were excluded from guilds just as the rural craftsmen (Haupt 2002).

Internally, the guilds were structured hierarchically into qualification and social levels: entry took place via vocational training: the trainee, the “apprentice”, formed the lowest level. He received no payment, had to pay training fees, but in exchange received food and board in his small crafts enterprise. After completing his training, the apprentice, after proving his skills by delivering the “Gesellenstück” (a practical demonstration of his skills), was awarded the status of “journeyman/skilled worker” (German: “Geselle”). In contrast to apprentices, journeymen received a wage; however, their wages were low and they had – just like apprentices – no “right to say” in their guild. Journeymen could then be promoted to master craftsman, if permitted by the other masters of the guild. If a journeyman received this opportunity, he had to provide evidence his professional expertise and his respectability vis-à-vis his guild. As the masters of a guild determined who would become a master, this route was particularly open to their sons, which is why many journeymen remained dependent on a master for all their lives. If a journeyman attained the status of master craftsman, he was entitled to found his own business, train apprentices and employ journeymen. Masters were like little kings in their own kingdom, their own enterprise (Pätzold&Wahle 2009).

Efficiency, respectability, professional honour and professional identity

Guilds controlled and guaranteed the quality of professional conduct (“efficiency/competence”) on the one hand, and the compliance with proper behaviour (“respectability”) on the other. As a member of a guild or an “honourable” profession, a person automatically acquired social evidence of efficiency/competence and respectability. A person was always equal to their state: those who carried out “honourable” professions were also honourable and efficient/competent. Professional honour shaped professional identity and professional identity shaped personal identify. Depending on qualification status within a guild, thus either “apprentice”, “journeyman” or “master”, social prestige also rose. To carry out a “honourable” profession was a distinction in itself. To be a master craftsman in one’s profession was an even greater distinction. The fact that this understanding (profession = efficient/competent + honourable) was able to become socially manifested, can be credited to the guilds on the one hand, and the social necessity of differentiating oneself vis-à-vis other social groups, in particular the “dishonourable” professions and serfs (Pätzold & Wahle 2009).

The roots of today’s social acceptance of vocational training in Germany can be traced back to the Middle Ages. The term “vocation” has a positive connotation in Germany, and vocational training today (as then) always means the simultaneous development of “efficiency” (development of professional competences) and the development of “respectability” (development of personal and social competences). Without this history, it can hardly be understood, when Germans talk of a “trained vocation”, the notion of “professional honour” is implicit.

Community, professional socialization and learning on the job

The medieval guild-based vocational training system did not have a curriculum. What, when and how matters were taught and learned was in the hands of the master craftsman. The apprentice lived in the master’s household and was a part of his life, his community. Vocational training was therefore less a systematic education, but rather a professional socialization within a professional community. The learning/teaching

principle was imitation: by means of demonstration of his implicit knowledge in his practical activities, the master passed on his implicit knowledge to his apprentice, who also developed implicit knowledge (Pätzold & Wahle 2009). Learning on the job was more than just the idea of learning in a practical context: learning on the job was the instrument to have an educational effect; learning on the job in a craft-based community was an instrument of secondary socialization, following primary socialization within the family.

Decline of the guilds and the end of a high quality in workplace-based vocational training

On the one hand, the guilds were a stabilizing element in the social order of the Middle Ages. On the other hand, they were able to assert their own interests against the city's authorities by means of their collective power, and were able, because the guilds were also organized beyond city borders, to play off individual cities against each other. During the course of a row with the city administration in 1667, for example, 150 craftsmen in the textile trade collectively left the city of Augsburg, in order to settle in a neighbouring town. The city lost a whole economic branch; a serious economic problem. The cities reacted and developed a concept to deal with the power of the craftsmen. The concept finalized in 1671 formed the basis of the Crafts Code (*Reichshandwerksordnung*) of 1731 (Winzen 2002). In the Crafts Code of 1731, the guilds were not eliminated, but their self-administration rights were severely curtailed. Thus, for example, price fixing was forbidden and the admission of apprentices was regulated. The guilds were now under state control.

The final step towards the abolition of the guilds, however, was not politically motivated, but rather economically motivated. In the 19th century, the guilds appeared backward, traditional and as no longer fitting in with the economic-liberal zeitgeist. This can be demonstrated by the example of the introduction of commercial tax on 2 November 1810 in Prussia: in order to carry out a trade, it was no longer mandatory to belong to a guild, nor was it necessary to have the guild's permission, but rather the payment of taxes was decisive. The mandatory guild membership, in other words, the obligation to be a member of a guild, had been abolished. With this regulation, the monopoly of guilds was broken and their demise was rung in. In 1845, this principle was not abolished in Prussia, but now the formation of *voluntary guilds* was permitted.

Excursion: during the Middle Ages, the term "Zunft" (guild) was originally used in southern Germany and there in the free imperial cities. Guilds assumed a public function within the order of the free imperial cities as a department of the commoners (e.g. defence of a section of the city walls), for which, in turn, an internal order based on rules was necessary. The term "Innung" (guild) is a synonym on the one hand, because this term also denotes an association of craftsmen. However, this term was originally used in central and northern Germany, and there were only a few free imperial cities with their own rights and popular participation here. The urban "Innungen" in the north thus had fewer rights than the urban "Zünfte" in the south. The geographic separation of terms and the types of association increasingly dissolved during the course of the Middle Ages (key word: trade), and "Zünfte" with a strict internal order also became established in central and northern Germany under the umbrella of the "Innung". In a dictionary of the German language of 1811, this parallelism of terms with their different meanings was tangible: "Innung" denoted an association of craftsmen and represented a general term. "Zunft" was only the term for an "Innung" if it represented a unit of citizenry and thus had access to special rights" (Campe 1811, p. 908). With the introduction of the freedom of trade, the Zünfte lost their rights, however (e.g. price fixing), which made it unattractive to subject oneself to the obligations of a Zunft. By contrast, the liberal Innungen became more attractive as a result of the freedom of trade, and their dissemination was also politically promoted (see below: Guild Act [Innungsgesetz] of 1881).

In 1869, the Northern German Confederation, and following this in 1871, the German Reich (newly founded in the same year), adopted a Trade Regulation [Gewerbeordnung], which determined the freedom of trade. From 1871, any person in the entire Reich was permitted to open a trade. Evidence of competence to train an apprentice was no longer required. The guilds lost their public function (Haupt 2002). With the removal of the

guilds' power, however, vocational training also lost its responsible body and this resulted in a vacuum with regard to the on-the-job training, the education and socialization of young people.

2.2 The role of the state in the bourgeois-capitalist society of the 18th and 19th centuries and the development of corporatist steering

Emergence of the proletariat and workers' rights

With the introduction of production processes based on a division of labour in manufacturing and factories, a new type of worker emerged in the 18th century: the proletariat. Initially, there was no guild equivalent for these workers; they were not organized, were not able to represent their interests vis-à-vis their employers and were increasingly exploited with longer working hours, low wages and unemployment in the event of sickness. The result of this development was the increasing impoverishment of the working class. The impoverishment of workers, failed harvests and the success of the February Revolution in France (1848) finally led to the German Revolution of 1848/49. In the summer of 1849, the Revolution had been quashed, but the ruling classes and the German Emperor ("Kaiser") were alarmed.

In order to counteract the impoverishment of the workers and to decrease lawlessness, the workers became organized in trade unions and social democracy was created. In 1863, the General Association of German Workers (Allgemeiner Deutscher Arbeiterverein) was founded, in 1869 the Social Democratic Workers Party was founded, and in 1875 these groups were merged to form the German Socialist Workers Party, (Sozialistische Arbeiterpartei Deutschlands) which was renamed Sozialdemokratische Partei Deutschlands (SPD) in 1890. The existing hierarchical order came under threat by social democracy, and the trade unions also endangered company profits with the increasing number of work stoppages and strikes. The state reacted: in order to take the wind out of this movement's sails, the status of the workers had to be improved, which is why in 1883, the Act regarding the Health Insurance of Workers (Gesetz betreffend die Krankenversicherung der Arbeiter), in 1884 the Accident Insurance Act (Unfallversicherungsgesetz) and in 1889 the Act regarding Invalidity and Old Age Insurance (Gesetz betreffend die Invaliditäts- und Altersversicherung) were passed.

Trade Regulation of 1869/ 1871, impoverishment of craftsmen and the birth of the craftsmen movement

The impoverishment of the thus far privileged class of craftsmen, the "middle class" represented a second problem. With the abolition of the pricing monopoly in 1731 and the introduction of freedom of trade (1810 in Prussia, 1869 in the Northern German Confederation and then across the entire German Reich from 1871), this class did not only lose its prestige and influence, but also its economic base. The Trade Regulation of 1869/1871, which initiated this development, marked the beginning of a new basic order. In 1871, the German Empire was founded, upon which the new Trade Regulation became valid in the entire German Empire, the Reich. Until 1871, Germany consisted of individual principalities, which cooperated more or less with one another. The Trade Regulation of 1869/1871 was the first of its kind and is still valid, with amendments, today. Trade matters were now matters of the Reich, although their beginnings in 1869/1871 were rather unsuccessful: the Trade Regulation of 1869/1871, which was shaped by a liberal spirit, not only allowed for freedom of trade, but also the free practice of trade by anyone and in any location (§ 1), but also declared the vocational training a private matter of companies: they were entitled to train any number of apprentices (§ 41). The apprentice instructor had the obligation to train the apprentice (§ 118) and he acquired far-reaching rights to do this (§ 119), but there was no authority that monitored the quality of teaching or protected the apprentices from the power and arbitrariness of the instructors. Because instructors did not have to provide evidence of their teaching skills, complaints regarding "bungling" in attitudes of apprentices quickly increased. Poorly and inadequately trained apprentices founded companies and took on apprentices, who themselves received insufficient training. Apprenticeships became an economic operand: low income for working – not for learning. The result was a clear qualitative decline and a deterioration in apprentices' vocational training.

Contractual breaches by apprentices, the so-called “running away from an apprenticeship” became an everyday occurrence in the 1870/80s (Muth 1985, p. 18). With the Trade Regulation of 1869/1871, the “traditional notion of an ordered craft-based apprenticeship became de jure obsolete” (Pätzold 1982: 8).

But the situation of craftsmen themselves deteriorated from 1873 with the start of an economic crisis, which lasted until 1895. During the course of this crisis, the craftsmen now began to fight politically for their rights in earnest, and they received support from the Conservative party camp. Central demands of the craftsmen movement were: strengthening of the “Innungen” (with which a “Zunft-like” corporation with its own rights was to be created), the introduction of compulsory membership (whoever ran a trade company had to be a member of the guild), evidence of competence (only master craftsmen should be permitted to run a company). These demands clearly show that the medieval guilds had been abolished, but their spirit lived on in the craft (Greinert 1995, p. 38 ff).

Re-introduction of guild-like structures to strengthen craftsmanship

The demands had an effect, in that they were able to solve two problems at once: on the one hand, the economic situation of craftsmen improved and the radicalization of this group and a threat to the state was prevented. On the other hand, the strengthening of craftsmanship created a structure in which the simple workers, the proletariat, could be disciplined via vocational training. The organized craftsmen were to become an instrument of the state against the socialist workers’ movement; craftsmen were to act as the “pillar of throne and altar” (Wernet 1952: 44).

It thus fits with the overall picture that not only centralized laws were passed in the 1880s to improve the situation of simple workers (see above: 1883 health insurance for workers), but by including an amendment in 1881 of the Trade Regulation (the so-called Guild Act [Innungsgesetz]), which strengthened craftsmanship and introduced a structure similar to that of the medieval guilds: the “Innungen”, which were not abolished in 1869/71 but without rights and built on voluntary membership associations of craftsmen businesses such as the metal workers’ guild, bakers’ guild, carpenters’ guild) now acquired the right to organize themselves in a public-legal corporation. These guilds had the right, inter alia, to create their own courts of arbitration, to conduct master and journeyman examinations, and to regulate apprenticeships.

The status of vocational training had already been improved in a previous amendment to the Trade Regulation in 1878: introduced among other things were a probationary period and a written apprenticeship contract. Both instruments impeded the arbitrariness of instructors, strengthened the rights of apprentices and made the apprenticeship, as a private-legal contract, into a public matter. The rights created in 1878 only resulted in a (still limited) effect with the authorization of guilds from 1881. However, the de facto limited scope of regulations proved to be problematic: the guilds (Innungen) were only given the authorization for regulating and monitoring the apprenticeships of their own members. Yet, membership was voluntary and only a small number of craftsmen joined a guild, because these involved more duties and control than rights (Mack 1927). As such, there can be no talk of a comprehensive control of apprenticeships.

A further stage of development took place in the course of another amendment in 1897 with the so-called “Craftsmen Protection Act” [Handwerkerschutzgesetz]. The different guilds received the Chamber of Crafts as an umbrella organization. The state had learned its lesson from the history of the guilds: without any control, it was dangerous to give power to the guilds. At the same time, the state was not able to take control itself and directly, to the extent that the guilds were supposed to help the state construct a power structure against the socialist workers’ movement. The solution was an intermediary organization in the form of the Chamber of Crafts, which was, however, under state control. On the one hand, the Chamber of Crafts was responsible for drafting expert reports and announcements about craftsmen for the state, and to regulate and control the

guilds on the other. The Chamber of Crafts, also a public-legal institution, received even further-reaching rights, for example, it was responsible for the formation of examination boards to conduct journeyman examinations for members of the guilds as well as (new!) for non-guild members, which meant in particular, that vocational training in the large craft-based enterprises was also controlled by the Chamber of Crafts. The facultative compulsory guild membership, according to which a guild could introduce compulsory membership for its guild as long as the majority of local craftsmen agreed, was also introduced in this amendment. Also introduced was the statutory requirement to conclude a written apprenticeship agreement (meaning this was easier to control) and that the duration of an apprenticeship was generally three years (and a maximum of four years). With the amendment of 1897, craftsmanship was able to rebuild its traditional vocational training system, which had become largely shattered since 1869, and to furnish it with a certain exclusivity. Rebuild was also the classical structure of the Middle Ages: Apprentice, Journeyman, Master Craftsman. Chambers of Crafts received a de facto examination monopoly in the area of apprenticeships; the master title was protected by law. A further amendment of the Trade Regulation in 1908 finally re-introduced the evidence of competence: the right to vocational training was now once again linked to the (medieval) master title (Greinert 1995).

With the strengthening of guilds in 1881 and the introduction of the Chamber of Crafts in 1897, the “self-administration of the economy” was created in accordance with legislation (Will 2010). Under the umbrella of the state-monitored Chambers of Craft, companies had the right, but also the obligation, to organize, carry out and monitor apprenticeships. The corporatist steering of the vocational training system, which exists today and form the architecture of the dual-based system, had been created. A uniform and comprehensive regulation of the ever-increasing industrial apprenticeship had yet to occur, however, and this fact was initially viewed by many companies as an advantage. As such, company owners tried to claim that their companies were factories in order to withdraw from the organization of craftsmanship and to use the liberties in the area of apprenticeships for economic purposes (Seipel 1929, p. 31). This problem was only solved in the 1920s and will represent part of the following second article.

Emergence and development of vocational schools

During the course of the amendments of the Trade Regulation and the introduction of freedom of trade 1869 / 1871, which led to the guilds’ deprivation of power, an educational vacuum was created: between the end of compulsory schooling at age 14 and the beginning of military service, which began at age 20, there was an uncontrolled, education-free period, as the ordered vocational training had been practically disbanded (Michael & Schepp 1993). In order to compensate for this vacuum, the Trade Regulation of 1869 / 1871 provides that the municipalities can extend compulsory schooling for journeymen and apprentices up to the age of 18. As municipalities were free to do this, the so-called “further education school” did not become established in the entire Reich: the decline of company-based vocational training was thus at the same time the hour of birth of school-based vocational training in Germany, although not the hour of birth of the vocational school. The instrument of “further education schools” existed since 1871 across the entire Reich. However, it had only little effect, as the further education school only captured a small proportion of young people. In addition, the further education school was not geared towards vocational requirements. It was far more a continuation of general education.

At the beginning of the 20th century, the question remained as to how young people might be incorporated into society (and to be prepared and socialized for the later military). A further problem was the new production process, in particular in pioneer enterprises of machine building and the electrical industry, which required a new form of qualification: the new production methods included specialization of the production process, detailed self-calculation of costs for the individual manufacturing stages, planned performance and control, standardization of exchangeable parts and their guarantee through so-called limit gauges (“fit”). This

rationalization thrust required a new type of industrial worker, who – in contrast to the thus far employed “artistic craftsman” – was willing to submit to the requirements and constraints of the new production methods. (Greinert 2006, p. 502)

The answer was finally formulated by Georg Kerschensteiner: by means of a school-based vocational education, which (1) enabled the taking up of a function in society via a learned profession, which (2) beyond this enabled the virtuous carrying out of this profession, and which (3) enabled the acquisition of civic virtues (Kerschensteiner 1901). Kerschensteiner legitimized his programme via the problem of civic education and was hereby oriented towards craftsmanship – and not industry. However, he laid the foundation for a school-based apprenticeship. Such a school was to be based on the work of a craftsman and not a pure book school: “Craftsmanship is not only the foundation of all art, but also the foundation of all science. A public school that prepares students for mental and manual professions is thus poorly organized if it does not offer facilities that develop the practical tendencies and skills of the pupil.” (Kerschensteiner 1922, p. 28). With this requirement, Kerschensteiner refers on the one hand to Heinrich Pestalozzi and on the other to John Dewey. The greatest flaw of general education schools was that they do not consider the “fundamental principle of all mental education” of Dewey, according to which mental development “advances always and everywhere from practical interests.” (ibid, p. 41). Kerschensteiner not only formulated the political-educational programme for the reformation of further education schools, which ultimately formed the foundation of vocational schools, but also first put this model into practice in Munich after 1900, thereby demonstrating how such a school should look.

In the constitution of the German Reich of 1919, the “Weimar Constitution”, compulsory education was extended to 18 years of age, with which compulsory schooling also included all apprentices. The institution, termed “work school” (Arbeitsschule) by Kerschensteiner, is today the second pillar of vocational training in Germany, alongside the company-based apprenticeship.

The German vocational training system had, on the one hand, taken on shape as a result of the amendments to the Trade Regulation of 1878, 1881, 1897 and 1908 as well as the transfer of responsibility of company-based apprenticeships to the Chamber of Crafts. Through the introduction of further education schools in 1869/1871 and their reformation into vocational schools in the 20th century, and ultimately the introduction in 1919 of compulsory education until 18 years of age, this company-based vocational training received an addition through a school-oriented vocational education.

However, one could not yet speak in terms of a coherent and integrated system, as, among other things, the question of the status of industry, which was becoming increasingly influential, had not been solved. In the amendment of the Trade Regulation of 1897, the Chambers of Crafts had been granted the examination monopoly for apprenticeships in large crafts-based enterprises. The Chambers of Crafts tried to use the existing examination monopoly to exert influence over apprenticeships in the industrial factories and to derive financial demands. The vocational training system received a central development thrust from out of this problem situation. With the beginning of the 20th century, industry built “a parallel industrial system, alongside the craftsmanship system, though oriented towards this. Tensions between the two systems changed the main route of institutional development. As a result, the system departed from the decentralized and rather unsystematic apprenticeship, which had been characteristic of the older craftsmanship model, and achieved a far higher degree of centralization, standardization and uniformity – elements, that are considered today as the determining features of the German system.” (Thelen 2006, S. 402-403)

How this confrontation between craftsmanship and industry led to a coherent dual vocational training system is the subject of the following article. In the beginning of the 20th century, the real possibility existed in Germany that an “enterprise-based skill system” might become established like in Japan. The economy

dominated vocational training, school-based apprenticeships were still hardly specifically geared towards company requirements and vocational schools did not have a status within the educational system and not been fully accepted. With the amendment to the Crafts Code [Handwerksordnung] of 1897, the state had not only transferred the rights to provide vocational education to the economy, but had foreclosed the opportunity to exert any influence. This situation was only amended much later.

3 Summary

Today's social recognition of professions and the structure of enterprise-based vocational training in Germany cannot be understood without the guilds in the Middle Ages and their internal rules on the one hand, and their status in society on the other. Central principles of the dual vocational training system have their roots here: (1) professions are honourable; as (2) a member of a professional community, a (3) professional socialization takes place and (4) a professional identity is developed. As well as (5) the apprenticeship takes place in the real working process in a company.

The fact that these principles were able to survive until today does not have economic, but rather initially socio-political reasons: with the introduction of freedom of trade in 1869/1871, which led to the deprivation of power of the guilds, the guilds initially lost their key rights across the entire German Reich (e.g. price fixing, control of access to a craft, vocational training). In the same manner, this happened in other European countries. In contrast to France and England, however, the tradition of guilds was taken up again in 1881 with the strengthening of "Innungen" in Germany, without re-introducing the "Zünfte". The "Innungen" (= association of craftsmen) acquired the status of a public-legal corporation and special rights: they were authorized to create courts of arbitration, carry out master craftsman and journeyman examinations and regulate apprenticeships. The motivation for this was to improve the economic status of craftsmen in order to provide a social counterforce to the political workers and trade union movement and the emerging social democracy: an economically well-off and stable middle class. The guilds further served as an extended arm of the state with the task of organizing and controlling vocational training in the enterprises. The guild thus had a disciplining function – in the centre of society.

However, strong guilds also represented a threat to the state and the diversity of guilds could hardly be monitored. As an intermediary public-legal corporation, which on the one hand was under state control and was transferred the supervision of all guilds (and apprenticeships) on the other, the Chamber of Crafts was founded in 1897. The principle, which still applies today, of the "self-administration of economy", was thus created. The interaction of state and economy has been as follows since 1897: the state formulates the framework conditions, does not, however, intervene directly in the economy, and in turn, the economy fulfils this framework in self-administration and responsibility. These framework conditions include the rights of an apprentice in a company, which are contractually stipulated and that the company-based apprenticeship must adhere to specific standards. The long tradition of self-administration of company-based apprenticeships is, in turn, the reason why the economy identifies with the vocational training system and why an apprentice is not considered a foreign body or intern within a company, but rather a part of the professional community. To be a part of the professional community is, in turn, a prerequisite for learning within a working process, for the passing on of knowledge and the fact that an apprenticeship can take place at all within a company.

At the beginning of the 20th century, a school-based vocational training system developed quietly alongside and in addition to this company-based apprenticeship, which was founded on the idea right from the start that a professional education, even if it takes place in school, must be linked with practical experience in order to promote mental-moral development. With the further education schools geared towards general education, the necessary resource was available to create a school-based apprenticeship, the vocational school. It was,

however, still a long way to the establishment of school-based apprenticeships. The further path, which is the subject of the following article, also included the increasing conflict between craftsmanship and industry in the early 20th century. The craft-based apprenticeship was not suited to the requirements of industry, and at the same time, it appeared that learning on the job was not possible in the new industrial facilities, a conflict, which enabled the further development of the vocational training system. The trade unions have not yet appeared in this account, and this for good reason: they did not yet matter. Their finest hour came only in the 20th century.

The engine behind the development described here can be briefly characterized as follows: conflict and then a problem solution geared towards the state, society and the economy, which leads to another conflict and another problem solution. A cyclic development – driven by conflict. The one thing missing from the development was a master plan.

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